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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,023	02/23/2001	Armin Herbert Emil August Olschewski	107775	1361

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EXAMINER

KING, BRADLEY T

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 11/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,023

Applicant(s)

OLSCHEWSKI ET AL.

Examiner

Bradley T King

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8,9,11-17 and 21-34 is/are rejected.
- 7) ☒ Claim(s) 3,7,10 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 01 August 2002 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3683

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 8/1/02 have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(a)(6) states that no amendment may introduce new matter into the disclosure of an application. The original disclosure does not support the showing of cvt combined with a disc brake.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of claims 8, 11-12, 14, 22-23, 26-27, and 31-34 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as

Art Unit: 3683

"means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract accompanying the PCT contains legal language such as "means".

4. The disclosure is objected to because of the following informalities:

The specification lacks section headings.

Appropriate correction is required.

5. The application is objected to because of alterations which have not been initialed and/or dated as is required by 37 CFR 1.52(c). A properly executed oath or declaration which complies with 37 CFR 1.67(a) and identifies the application by application number and filing date is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 8, 11-12, ²⁶⁻²⁷14, ²¹⁻²³22-23, 26-28 and 31-34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly

Art Unit: 3683

connected, to make and/or use the invention. The specification fails to disclose and adequately support the features of the instant claims. For instance, claim 31 is directed towards a continuously variable transmission actuated by the actuator of claim 1. The drawings fail to show this combination and the specification fails to describe the combination in such a way that allows one skilled in the art to make or use the invention. Claim 8 recites "the screw is rigidly connected to the actuating member". This embodiment is not illustrated nor is it described in an enabling manner. Claim 28 recites "hard turning". It is unclear what is meant by this limitation and the specification fails to define this term.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites "one or two motors". It is unclear if these are the same as the motor of claim 1, or new recitations.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3683

11. Claims 1-2, 4, 9, 13, 21, 25, and 29-30 rejected under 35 U.S.C. 102(b) as being anticipated by Penrod et al.

Penrod et al disclose all the limitations of the instant claims including; a screw actuator having a housing, a motor 57, an actuating member 56, and a screw mechanism which provides a linear movement of the actuating member with respect to the housing in response to a rotational movement of the motor, the screw mechanism comprises a screw 53, a nut 51 engaging each other by rolling elements, the screw being rotatable with respect to the housing, and a reduction gear means (see figure 2), where the nut is fixed with respect to the housing and the screw is rotatably supported with respect to the housing by means of the rolling elements.

Regarding claim 2, figure 2 discloses coupling means in the form of a cross pin.

Regarding claim 21, Penrod et al disclose an position sensor in figure 2.

Regarding claim 30, Penrod et al disclose the combination of the actuator with disc brakes (figure 8).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-2, 4-6, 8-9, 13, 16-17, 24-25, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/17553 in view of Taig.

Art Unit: 3683

WO 97/17553 discloses an actuator including (see figure 4): a screw actuator having a housing 6, a motor 10, an actuating member 49, and a screw mechanism which provides a linear movement of the actuating member with respect to the housing in response to a rotational movement of the motor, the screw mechanism comprises a screw 51, a nut 52 engaging each other, the screw being rotatable with respect to the housing, where the nut is fixed with respect to the housing and the screw is rotatably supported with respect to the housing by means of the rolling elements. WO 97/17553 lacks rolling elements between the screw and nut and a reduction means. Ball screws are well known in the art to reduce wear and friction, and reduction gearing is well known to increase the actuating force of an actuator. Taig teaches both a ball screw system and a planetary gear reduction which allows for reduced motor size. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include rolling elements in the screw mechanism of WO 97/17553 to reduce friction and wear, increasing the durability of the actuator, and to provide a planetary gear reduction to decrease the requirements of the motor, thereby decreasing size and cost of the actuator.

Regarding claim 2, the pin 53 and slot 54 allow axial movement of the screw.

Regarding claim 4, WO 97/17553 and Taig lack a coating on the screw mechanism.

Wear resistant coatings are well known in the art of bearings to reduce friction and increase the useful life of components. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize a wear resistant coating in the bearing elements of WO 97/17553 and Taig to increase the life and efficiency of the device.

Art Unit: 3683

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Penrod et al in view of Blosch et al (US 6012556).

Penrod et al discloses all the limitations of the instant claim with exception to laterally a shifted motor. Blosch et al teach a reduction gearing which utilizes a laterally shifted motor to allow space for the gears. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the gear reduction taught by Blosch et al for the reduction gear of Penrod et al as an obvious means of gear reduction, allowing the use of smaller, less expensive motors.

15. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Penrod et al in view of Taig.

Penrod et al disclose all the limitations of the instant claims with exception to a planetary gear reduction. Planetary gear reductions are well known in the art such as demonstrated by Taig. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize a planetary gear reduction taught by Taig for the reduction gear of Penrod et al as an obvious means of gear reduction, allowing compact actuating arrangement.

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Penrod et al .

Penrod et al disclose all the limitations of the instant claim with exception to a coating on the screw mechanism. Wear resistant coatings are well known in the art of bearings to reduce friction and increase the useful life of components. It would have been obvious to a person of

Art Unit: 3683

ordinary skill in the art at the time the invention was made to utilize a wear resistant coating in the bearing elements of Penrod et al to increase the life and efficiency of the device.

Allowable Subject Matter

17. Claims 3, 7, 10 and 18-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Applicant's arguments filed 8/1/02 have been fully considered but they are not persuasive.

While the applicant has amended the specification to include proper antecedent basis for the claimed subject matter, this subject matter has not been disclosed in a manner that allows one skilled in the art to make or use the invention. The drawings also fail to illustrate the features of many of the claims.

Regarding the subject matter of figure 5, the instant application does not contain a fifth figure. All references to figure 5 also appear to have been removed prior to filing.

Art Unit: 3683

Regarding WO 97/17553, the limitation “nut” has been giving the broadest reasonable meaning in light of the instant specification. The nut of WO 97/17553 utilizes an internal thread, to translate axial movement to a screw member just as the instant specification discloses. While the nut is integral with the housing, it takes the form of a boss which extends partially into the housing. It is maintained that this boss reads upon the “nut” of the screw mechanism as broadly recited by the claims.

Art Unit: 3683

Conclusion


19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley King whose telephone number is (703)308-8346.

BTK

November 3, 2002


JACK LAVINDER
SUPERVISORY PATENT EXAMINER
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11/4/02